

Chapter 2 PROJECT DESCRIPTION

The basic scope of improvements, providing 2.4 m (8 ft) shoulders and improving safety on the highway, were developed during a Value Analysis (VA) Study completed in 2001. Subsequently a Project Study Report (PSR) was approved in October of 2001 recommending additional measures to further improve safety; including turn lanes, improving curve geometry, flood protection and bridge widening or replacements.

A more detailed account of the project development process can be found in the Comments and Coordination section of this environmental document.

2.1 PROJECT DESCRIPTION

The proposed improvements would widen the roadway from approximately 7.3 m (24 ft) to approximately 12 m (40 ft) to provide standard 2.4 m (8 ft) shoulders on both sides of SR 16 for the length of the project. In addition, 3.6 m (12 ft) will be cleared of any fixed objects. This 6 m (20 ft) clear recovery zone (CRZ) will provide drivers of errant vehicles an increased opportunity to regain control. In addition to the CRZ, the proposed project includes the widening or replacement of three bridges, constructing standard horizontal, vertical and super elevation roadway geometrics and providing left turn lanes at several public road connections. SR 16 between Esparto and I-505 would be raised above the 100-year flood level. At the west end, improvements are proposed to facilitate ingress and egress from the Cache Creek Casino.

2.2 GENERAL FEATURES OF BUILD ALTERNATIVES

The full scope of the proposed project can be better understood by supplementing the following description with the maps and design plans that are included in this document. Figures 1 shows the regional location of the project in Yolo County. Figures 2a and 2b show the limits of the project along SR 16. Appendix A contains detailed project plans for the design alternatives currently being considered. Appendix B contains typical cross sections of the proposed improvements.

The proposed project would make improvements from near the town of Brooks at the west end of the project, about 275 m (902 ft) west of CR 78 (KP 29.9, PM 18.6). The project continues east and ends at the South Fork Willow Slough Bridge (KP 50.9, PM 31.65). The project does not include improvements within the towns of Capay or Esparto. Esparto and Capay do not exceed the statewide accident average and are therefore not included in the proposed safety

improvement project. Separate projects have been proposed to provide improvements to SR16 within the towns of Capay and Esparto.

The gap begins at the west end of Capay at the Capay Canal Bridge until about 180 m (591 ft) east of CR 85 (KP 40.5/41.4 [PM 25.1/25.7]). In the town of Esparto the project would stop on the western edge of town about 200 m (656 ft) west of Jensen Lane until about 135 m (443 ft) east of CR 87 (KP 43.7/44.9 [PM 27.2/27.9]).

The project consists of six segments, each of which has one or more options. All segments have common design features: 3.6 m (12 ft) wide lanes, 2.4 m (8 ft) wide shoulders and a CRZ of at least 6 m (20 ft) from the edge of traveled way. Left turn lanes are included at appropriate locations and are listed with the description of the segments that follow. The design speed is 90 kph (55 mph), so horizontal and vertical curves, profile grade and super elevation must meet that minimum standard and be consistent throughout.

Generally, changes to horizontal and vertical geometry occur adjacent to the existing roadbed, rather than directly on it. The majority of the construction will be accomplished by building half of the proposed alignment while traffic utilizes the existing road. The next stage would move traffic to the newly constructed portion of the road while the old roadbed is removed and the remainder of the new alignment is constructed. Staged construction will be generally uncomplicated and would minimize delays to the traveling public.

Segment 1 From 275 m (902 ft) west of CR 78 to 100 m (328 ft) east of CR 78A (KP 29.95/32.6 [PM 18.6/20.2])

This segment is in the area of a California Department of Forestry (CDF) Fire Station, the Brooks Post Office and the Rumsey Rancheria Casino and has three options. The length for Options 1 and 2 is approximately 2.62 km (1.63 mi); Option 3 is approximately 2.72 km (1.7 mi). Options 1 and 2 realign SR 16 away from the casino entrance in order to provide for smooth traffic flows. All options provide:

- Signalized intersection on SR 16 for Casino entrance
- Left turn lanes at CR 78 and 78A and at both casino entrances
- A new bridge over Taylor Creek

Option 1: West End Realignment. This option diverges from existing SR 16 in the vicinity of CR 78 and runs parallel to the existing road for about 1.7 km (1.06 mi) at an offset of about 180 m (591 ft), then turns toward existing SR 16 and runs adjacent to it for the remaining length of

the segment, about 900 m (2953 ft). A portion of existing SR 16 will be relinquished to Yolo County to provide access to the CDF Fire Station and the Post Office.

Option 2: Realignment. This option diverges from existing SR 16 near CR 78 and runs diagonally, merging with existing SR 16 near CR 78A. The maximum offset is about 230 m (755 ft). A portion of existing SR 16 would be relinquished to Yolo County to provide access to the CDF Fire Station and the Post Office.

Option 3: Widen Near Existing. This option widens to the south of existing SR 16, with proposed right of way contiguous to the existing right of way. Left-turn lanes would be provided from SR 16 to the CDF Fire Station and the Post Office.

Segment 2 - From 100 m (328 ft) east of CR 78A to 85 m (279 ft) west of CR 80 (KP32.6/34.3 [PM 20.2/21.3])

This segment is 1.76 km (1.1 miles) long and has only one option, which is to widen to the south, away from Taylor Creek. Left-turn lanes would be constructed at CR 79. The location was selected to avoid environmental impacts to the creek.

Segment 3 - From 85 m (279 ft) west of CR 80 to 250 m (820 ft) west of CR 81 (KP 34.3/35.3 [PM 21.3/21.9])

This segment is in the area known locally as Taber's Corner and has two options. The length of the curve realignment is approximately 980 m (3215 ft) for Option 1 and approximately 960 m (3150 ft) for Option 2. Both options provide a left turn lane at CR 80.

Option 1: Avoid Taylor Creek. This option diverges from existing SR 16 and sweeps to the south, then rejoins the current alignment avoiding all impact to Taylor Creek to the north. Both curves have a 450 m (1476 ft) radius. The location was selected to avoid environmental impacts to the creek.

Option 2: Impact Taylor Creek. This option diverges from existing SR 16 and sweeps to the south, then rejoins at a location that impacts Taylor Creek. A retaining wall would need to be placed in Taylor Creek to accommodate this alternative alignment. This design was developed as an effort to avoid impacting the Taber's corner property, which had been identified as a historic resource.

Segment 4 - From 250 m (820 ft) west of CR 81 to Capay Canal Bridge (KP 35.3/40.5 [PM 21.9/25.1])

This segment is approximately 5.2 km (3.2 mi) long and has only one option, which is to widen near the existing alignment. At the west end the widening would be to the south to avoid Taylor Creek. About 700 m (2297 ft) from the beginning of this segment the alignment crosses existing SR 16 and widens to the north to the end of the segment at Capay Canal Bridge. Widening to the north avoids hilly terrain that would require extensive cuts and fills, thus minimizing earthwork impacts and costs. Left-turn lanes would be constructed at CR 81, CR 82 and CR 82B. There is a gap in this project at the town of Capay between Segment 4 and Segment 5. This segment crosses three creeks: Saltroy Creek, Salt Creek and Willow Creek. All crossings will be accomplished with reinforced concrete box culverts. The end of the segment conforms to the existing roadway to the west of the Capay Canal Bridge.

Segment 5 - From 180 m (591 ft) east of CR 85 to 200 m (656 ft) west of Jensen Lane (KP 41.5/43.7 [PM 25.8/27.2])

This segment resumes the safety project between Capay and Esparto. It is about 2.2 km (1.4 mi) long and has only one option. The existing road runs eastbound from Capay, then turns southbound (on a 244 m [800 ft] radius curve) and then turns eastbound again (on a 259 m [850 ft] radius curve). Widening is generally near existing SR 16, with improvements to the horizontal alignment; the curves would be upgraded to radii of 420 m (1378 ft) and 310 m (1017 ft) respectively. The eastern 600 m (1969 ft) of this segment will be widened equally on both sides. Another improvement is the minor realignment of CR 85B to improve sight distance and safety. It currently intersects SR 16 on the 244 m (800 ft) radius curve, but will be relocated to the tangent between the two curves. A left turn lane will be constructed on SR 16 at this intersection. This segment is mostly orchards and the widening will not require any residential purchases. There is a gap in this project at the town of Esparto between Segment 5 and Segment 6.

Segment 6 - From 135 m (443 ft) east of CR 87 to South Fork Willow Slough Bridge (KP 44.8/50.9 [PM 27.9/31.6])

This segment resumes the safety project east of Esparto and continues for about 5.3 km (3.3 mi) to the projects eastern end at the South Fork Willow Slough and includes two options. Both options employ the same roadway design, with widening primarily to the north. The profile would be raised above the 100-year flood plain, but each options addresses drainage issues differently. Both options include an earthen berm to be constructed to provide 100-year flood protection for the southbound I505 off-ramp to SR 16. Both options include left-turn pockets at CR 88A and CR 88B; and a continuous two-way left-turn lane would be constructed north of the

town of Madison to provide turning movements for Tutt Road, CR 89 and the Yolo County Housing Authority. A new reinforced concrete box culvert will be constructed approximately 700 m (2297 ft) east of CR 86A to convey water in South Fork Willow Slough to the north of SR 16. This will replace the existing reinforced concrete box culvert located approximately 100 m (328 ft) west of Oakdale Ranch Road. Another reinforced concrete box culvert may be needed to pass floodwaters under SR16 between Madison sewer ponds and South Fork Willow Slough Bridge, depending on the feasibility of attenuating flood flows with either of the options described below. This segment will conform to the existing SR 16 alignment at the eastern end of the project, just west of the existing South Fork Willow Slough Bridge near I-505.

Option 1: Yolo County Flood Improvement Partnership. This option was developed cooperatively with the Yolo County Flood Control Agency to lessen the effects of flooding on the community of Madison. The level of SR 16 would be raised above the 100-year floodplain and the highway embankment would redirect flood flows around the north of Madison. Madison would continue to be susceptible to flooding from the south and west; however, many flood events will be less severe. In addition to raising the level of SR 16, the canal network would be improved to accommodate flood flows and easements will be purchased from adjacent farmland to detain flood flows and provide for slow release into existing channels.

Option 2: Widen And Raise SR 16. This option raises SR 16 above the 100-year floodplain and passes flood flows under the highway at most of the current locations. The volume of the flows at each location after project construction will match the volume of the pre-project flows except at the Madison Migrant Housing Center. The flood flow that currently enters the Madison Migrant Housing Center will be redirected to the east around the Madison Sewer Ponds.

2.3 The “No Build” Alternative

The no-build alternative would make no operational improvements to the existing roadway and would have neither construction nor environmental impacts. Routine maintenance would still occur as necessary. By not making any improvements this alternative would perpetuate the current safety problems.

2.4 Alternatives Considered and Withdrawn

2.4.1 New Alignment

A new roadway on new alignment would be the most expensive and disruptive alternative. It would be much more costly, would require the greatest amount of right-of-way, and would have

the largest environmental footprint of all the other alternatives. A new alignment is not considered a feasible alternative by either Caltrans or Yolo County.

2.4.2 Avoid 4(f) Property

A third option for Segment 3 was considered to fully avoid the historic property while adhering to current highway design standards. This option avoids the Taber's corner property at the expense of two new bridge crossing over Taylor creek. Given the increased biological impacts and extraordinary cost this option was dropped from further analysis. The Section 4(f) Evaluation, Chapter 4 of this document, also includes a discussion of this rejected design option.